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TARRANT WATCH VIRAL

May 2023 Update

TARRANT News & Updates

Bulletin May

What is happening in Community Respiratory Disease?

This season we had a severe early AH3N2 influenza epidemic just before the end of 2022, accompanied by an RSV epidemic. These faded away after the start of 2023. The National Sentinel Practitioner Surveillance Network (SPSN) network calculated the vaccine effectiveness for this early epidemic and published that in January. With such an early initial epidemic, usually, we can expect a late epidemic of Influenza B, and sometimes even the other A strain. But this season, there have only been a few cases of Influenza B: not enough even to call it an epidemic. At the national meeting of the SPSN network, we realized that the sample size is not large enough to calculate vaccine effectiveness for the second part of the season.

Now, in May, it appears that the respiratory viral season is ending. The early hot weather seems to have dramatically reduced transmission. However, the wildfires have led to population dislocation. It may mean that many are crowded together in shelter settings: this may provide opportunities for viral spread. So, we must maintain vigilance while hoping that we have a low virus summer.

The SPSN is now in the process of calculating vaccine effectiveness for COVID-19 in these past few months. This is the first time we have been able to apply our process to measure COVID vaccine effectiveness in the community. So the work you have done to collect the information on COVID vaccine status will now be used to understand what it is doing. The great interest in this research process is always: will we find what we expected, or something completely different? So thank you all for participating and helping us to understand our viral epidemics and preventive activities.

A vaccine for the respiratory syncytial virus (RSV) is currently in development and the first trials are being published. Advertisements for the vaccine and articles about its clinical effects are already appearing in the medical press, to prepare us for the marketing campaign once it is approved. Once again measurement of this disease will focus on the seriously ill children admitted to hospital, but valuable information will come from comparing what happens among our community patients.

Data analysis 2022-2023 Season

- During reporting weeks 1 (Nov 1, 2022) to week 27 (May 08, 2023), sentinels submitted 814 specimens. 82 (10.1 %) tested positive for Covid-19, 153 (19%) tested positive for Influenza A, 5 positive for Influenza B (0.6%), and 70 positive for RSV (8.6%).
- At the beginning of the season, there was a high number of influenza A positive cases which rapidly declined as shown in Figure 1. H3N2 was the predominant subtype seen (in 134 cases (87.6%)) while H1N1 was seen in 19 cases (12.4%).
- Covid-19 and RSV cases appeared to have peaked in December 2022 and January 2023 respectively, but there has been a gradual decline in these cases ever since. On the other hand, Metapneumovirus, Entero/Rhino virus, and Adenovirus had an upward trend since the beginning of the season – particularly since December 2022 and January 2023, and they have remained

Does susceptibility differ by sex?

More females than males attended sentinels for the care of respiratory viral syndromes. Among the 814 specimens obtained, 320 females and 216 males tested positive for one or more respiratory viruses. Overall, the rates of positive viruses were about 60% for both males and females. Given that there are some respiratory viruses that have not yet been identified, this suggests that sentinels are good at identifying cases where viruses are the likely cause. For most viruses there was an even distribution between sexes for children in the age group 0-9 years, but more boys than girls tested positive for Influenza A. Among adults, more females tested positive for most virus types. with the highest number in those within the 20-29 age group (see Table 2). This requires more reflection to understand the reasons.

Figure 1: Percentage of swabs positive for viruses from November 2022 to May 2023

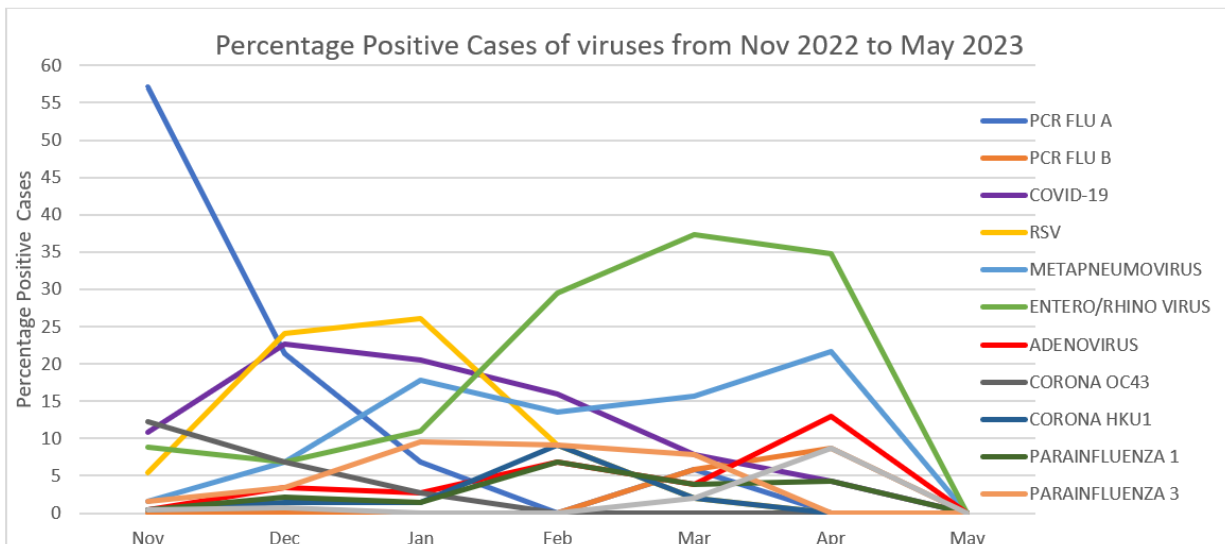


Table 1: Age and Sex distribution of respiratory viruses

AGE	COVID-19		Influenza				RSV		Coronavirus				Parainfluenza				Meta pneumovirus		Enterovirus / Rhinovirus		Adenovirus		Chlamydomphilia Pneumonia		Positive Cases		Negative Cases										
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M									
0-9	3	3	13	25	1	3	15	12	1	0	5	5	0	0	2	2	3	3	0	0	1	1	1	1	6	4	10	12	5	2	0	0	66	73	11	16	
10-19	4	5	13	16	1	0	0	3	0	0	4	1	0	0	0	0	0	1	0	0	1	1	0	0	2	1	5	2	0	2	0	1	13	33	19	13	
20-29	5	2	14	3	0	0	6	0	0	0	1	1	0	0	0	0	1	0	1	0	4	0	1	0	6	2	11	1	1	0	0	0	0	51	9	26	9
30-39	11	2	16	8	6	0	3	1	0	0	6	2	1	0	1	1	1	0	0	0	2	1	1	0	3	5	9	3	4	2	0	0	65	25	40	20	
40-49	12	1	5	7	0	1	4	1	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	5	2	6	2	0	0	0	0	34	16	32	16	
50-59	7	3	8	9	0	0	7	4	0	1	2	0	0	0	1	0	1	0	0	4	2	0	1	5	0	3	3	0	0	0	0	36	25	11	11		
60-69	6	5	10	2	0	0	5	2	0	0	3	1	0	0	1	1	0	0	0	4	0	0	0	3	4	3	2	0	0	0	0	35	17	13	11		
70-79	6	3	2	3	0	0	3	1	0	0	1	2	0	0	0	0	0	0	0	1	0	0	0	2	0	2	1	0	0	0	0	17	10	11	11		
≥80	1	3	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	4	8	6	2		
Total	55	27	81	74	8	4	44	26	1	1	24	13	1	0	4	5	5	6	1	0	17	6	3	2	33	19	50	26	10	6	0	1	320	216	169	109	

Influenza Updates

Canada Update

At the national level, influenza activity has remained stable, maintaining interseasonal levels. Numerous regions across Canada continue to report sporadic influenza activity. Between April 22nd and 29th, the percentage of positive influenza tests stood at 2.2%, with a total of 448 laboratory detections (86 influenza A and 362 influenza B). Influenza B detections accounted for the majority, comprising 81%.

The percentage of visits for influenza-like illness (ILI) during this period was 1.0%, which aligns with typical levels for this time of year.

From November 1, 2022, to April 29, 2023, a total of 641 laboratory-confirmed influenza outbreaks were reported, with one outbreak confirmed in the week of April 22-29.

In recent weeks, there has been an upswing in weekly hospitalizations attributed to influenza B.

Notably, the highest cumulative hospitalization rates as of week 17 were observed among adults aged 65 and older (133/100,000 population) and children under 5 years of age (126/100,000 population). The overall cumulative hospitalization rate for this season so far stands at 48/100,000 population.

Source: [FluWatch report: April 16 to April 29, 2023 \(weeks 16-17\) - Canada.ca](#)

WHO Influenza Update

Globally, influenza detections continued to decline, primarily driven by reduced cases in the northern hemisphere. However, some countries in the southern hemisphere witnessed an uptick in influenza detections in recent weeks.

In North America, most indicators of influenza activity were within the range typically observed between influenza seasons. In Canada and the United States of America (USA), Influenza B viruses were the predominant strain, especially in the most recent week.

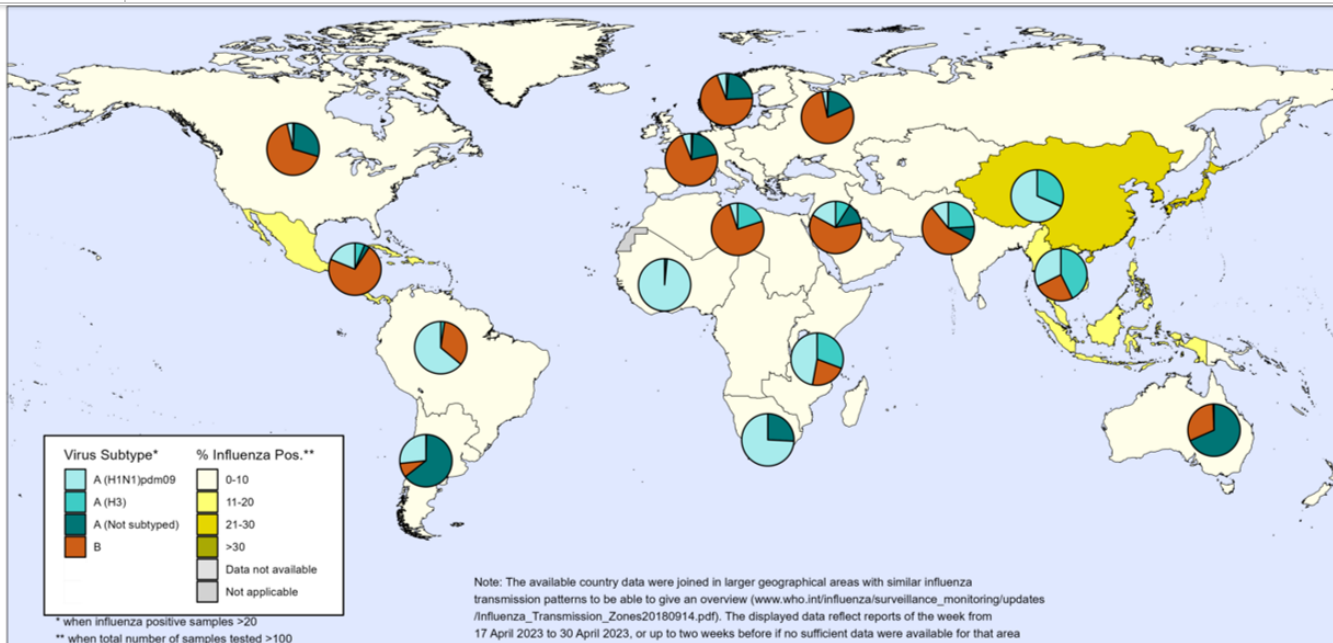
In Europe, overall influenza detections decreased, and the positivity rate for influenza at sentinel sites dropped below the epidemic threshold of 10% regionally. Influenza B viruses dominated both sentinel and non-sentinel surveillance, with all subregions experiencing a wave of influenza B activity following an initial wave of influenza A. Among the limited influenza A viruses detected, the majority were influenza A(H1N1)pdm09.

No influenza cases were reported in Central Asia and Northern Africa during this period, despite ongoing testing efforts. In Western, Eastern, and Southeast Asia, overall influenza activity remained low, with detections of all seasonal influenza subtypes. Similarly, tropical Africa and South America, except for Bolivia, reported similar findings.

In Southern Asia, Central America, the Caribbean, and the temperate zone of the southern hemisphere, influenza activity remained at a low level. In Tropical Africa, East and Southeast Asia, as well as the temperate regions of the southern hemisphere, the predominant virus detected was Influenza A.

Globally, respiratory syncytial virus (RSV) activity was generally low, except in Australia and a few countries in the Region of the Americas.

For the time period from 17 April 2023 to 30 April 2023, the WHO GISRS laboratories tested 266,317 specimens, with 18,330 positives for influenza viruses. Among the positive cases, 14,209 (77.52%) were identified as influenza A, while 4,121 (22.48%) were influenza B. Among the subtyped influenza A viruses, 8,816 (69.58%) were influenza A(H1N1)pdm09, and 3,854 (30.42%) were influenza A(H3N2). All 587 (100%) of the type B viruses belonged to the B/Victoria lineage.



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



Data source: Global Influenza Surveillance and Response System (GISRS), FluNet (www.who.int/fluNet)
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Source: [Influenza Update N° 445 \(who.int\)](#)



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